

U.S. Serial No. 10/534,072
Reply to Action of: August 18, 2008
Family Number: P2002J114

Page 9

REMARKS

Reconsideration of this application is respectfully requested.

Claims 1, 19 and 21 have been amended, and claim 18 has been deleted. Upon entry of this amendment, the pending claims will be claims 1-17 and 19-38.

Claim 1 has been amended to more specifically recite that the organic complex is an organic metal complex.

Claim 19 has been reworded to incorporate recitations of cancelled claim 18 and to depend directly from claim 1.

In view of the cancellation of claim 18, the dependency of claim 21 has been revised.

Objection under 37 CFR 1.75(c)

For the reasons given on page 2 of the Official Action, claim 19 is objected to under 37 CFR 1.75(c).

This rejection is respectfully traversed. However, this rejection has been obviated by the foregoing amendments, whereby claim 18 has been cancelled, claim 19 has been reworded to incorporate recitations of cancelled claim 18, and claim 19 has been amended to depend directly from claim 1.

Accordingly, the objection under 37 CFR 1.75(c) should be withdrawn.

U.S. Serial No. 10/534,072
Reply to Action of: August 18, 2008
Family Number: P2002J114

Page 10

Rejection under 35 USC 112, second paragraph

For the reasons given on page 2 of the Official Action, claim 1 is rejected under 35 USC 112, second paragraph. It is stated that there is insufficient antecedent basis for "the organic metal complex" recitation.

This rejection is respectfully traversed. However, this rejection has been obviated by the foregoing amendments, whereby claim 1 has been amended to more particularly recite that the organic complex is an organic metal complex.

Accordingly, the rejection of claim 1 under 35 USC 112, second paragraph, should be withdrawn.

Rejection under 35 USC 102 over Mauldin

For the reasons given on pages 3-5 of the Official Action, claims 1-3, 17-18, 26, 31-32 and 34-37 are rejected under 35 USC 102(b) over the disclosure of the Mauldin U.S. Patent No. 5,863,856.

This rejection is respectfully traversed.

A novel feature of the present claims is the **partial decomposition** of the organic metal complex (step b of claim 1), prior to the conversion of the **partially decomposed** organic metal complex into catalytically active metal (step c of claim 1).

In the Official Action, it is stated that partial decomposition inherently occurs in the process described in the Mauldin patent. In particular, at the bottom of page 3 of the Official Action, it is stated:

Regarding the partial decomposition, Mauldin teaches a method of producing a catalyst where an organo-metallic complex deposited onto a

U.S. Serial No. 10/534,072
Reply to Action of: August 18, 2008
Family Number: P2002J114

Page 11

support is calcined at a temperature from 200 to 550°C (see col 4, lines 55-60). Example 10 of the instant application discloses that calcination at 275°C results in partial decomposition of the organic complex. Mauldin's method with calcination performed at 275°C will inherently result in the same partial decomposition as claimed in the instant application.

Applicant respectfully submits that the present claims are not inherently anticipated by the disclosure of the Mauldin patent.

In order for a reference to inherently anticipate a claim, the "inherent" subject matter must necessarily be present in the reference. MPEP 2112 states:

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted) (The claims were drawn to a disposable diaper having three fastening elements. The reference disclosed two fastening elements that could perform the same function as the three fastening elements in the claims. The court construed the claims to require three separate elements and held that the reference did not disclose a separate third fastening element, either expressly or inherently.).

Whether a particular set of calcination conditions would result in partial or complete decomposition of an organic metal complex, obviously, depends on a number of parameters, including (1) the chemistry of the organic metal complex (particularly with respect to its combustibility), (2) the oxygen content of the gas introduced to the organic

U.S. Serial No. 10/534,072
Reply to Action of: August 18, 2008
Family Number: P2002J114

Page 12

metal complex, (3) the rate of gas flow to the organic metal complex, (4) the duration of calcination, and (5) the temperature of the calcination.

The passage of the Mauldin patent (i.e. column 4, lines 55-60) does not address all of the parameters necessary to establish whether less than complete combustion would take place. This passage (i.e. column 4, lines 55-60) states:

The metals are converted to an oxide form by calcination, suitably at temperature ranging from about 200° C. to about 550° C., preferably from about 250° C. to about 400° C., and the multi-functional carboxylic acid is burned, combusted, and removed from the catalyst.

This passage does not specifically address (1) the chemical nature of the carboxylic acid being combusted, or (2) the oxygen content of the gas introduced to the carboxylic acid, or (3) the rate of gas flow to the carboxylic acid, or (4) the duration of calcination. To the extent that this passage states that the carboxylic acid is "burned, combusted and removed" it suggests that combustion parameters are selected to achieve complete combustion of the carboxylic acid.

The disclosure of Example 10 of the present specification is not relevant to the question of whether the disclosure of the Mauldin patent inherently anticipates the present claims.

For the foregoing reasons, the rejection under 35 USC 102(b) over the Mauldin patent should be withdrawn.

U.S. Serial No. 10/534,072
Reply to Action of: August 18, 2008
Family Number: P2002J114

Page 13

Rejection under 35 USC 103 over Mauldin

For the reasons given on pages 5-8 of the Official Action, claims 1-3, 16-19, 20, 22-26, 31-32 and 34-37 are rejected (in the alternative to the anticipation rejection) under 35 USC 103(a) over the disclosure of the Mauldin U.S. Patent No. 5,863,856.

This rejection is respectfully traversed.

A non-obvious feature of the present claims is the **partial decomposition** of the organic metal complex (step b of claim 1), prior to the conversion of the **partially decomposed** organic metal complex into catalytically active metal (step c of claim 1).

In the Official Action, particularly at page 6, no reasons are given for the obviousness of conducting a partial decomposition other than the assertion that partial decomposition is inherent in the disclosure of the Mauldin patent. Partial decomposition is not inherent in the disclosure of the Mauldin patent for reasons given above in connection with the traversal of the anticipation rejection. Furthermore, there is nothing in the disclosure of the Mauldin patent to suggest that it would be obvious to conduct less than a complete combustion of the carboxylic acid residue.

The residue of the carboxylic acid performs no useful function in the catalyst ultimately produced by the method described in the Mauldin patent. The disclosure of the Mauldin patent repeatedly suggests that the residue of the carboxylic acid is completely removed prior to the final activation step, where metal oxide is reduced. See the disclosure of the Mauldin patent at column 3, lines 1-4; column 4, lines 55-65; and column 6, lines 1-3.

U.S. Serial No. 10/534,072
Reply to Action of: August 18, 2008
Family Number: P2002J114

Page 14

The present application is the National Stage of International Application No. PCT/EP03/12884. In the International Preliminary Examination Report, completed March 21, 2005, the subject matter of the present claims was distinguished from the disclosure of the PCT counterpart (i.e. WO 98/47618) of the Mauldin U.S. Patent No. 5,863,856. WO 98/47618 was designated as document D1 in the International Preliminary Examination Report. In Section 2.2 of the International Preliminary Examination Report, the following is stated about the PCT counterpart (i.e. WO 98/47618) of the Mauldin patent:

Document D1 is regarded as the closest prior art.

The subject-matter of independent claim 1 differs from this known process for preparing catalysts in that the organic metal complex is partially decomposed, whereby the partially decomposed product (I) retains between 10 and 95% by weight attributed to the organic complex prior to partial decomposition and (II) exhibits one or more infrared adsorption bands between 2100-2200 cm⁻¹ that are not present in the organic complex before partial decomposition. In D1 the complex is fully decomposed.

When comparing example 7 (according to the invention) with example 8 (not according to the invention), it becomes apparent that the process of claim 1 achieves a combined dispersion of about 65%, whereas example 8 only achieves 7-8%.

The problem to be solved by the present invention may therefore be regarded as to provide a process for preparing catalysts with improved combined dispersion of the catalytically active metal (cfr. [008] to [010] and [036] of the current specification).

The available prior art documents do not give the skilled person a hint that, in order to solve the above identified problem, he should modify the process of D1 in the way as is defined in independent claim 1. The solution provided for in claim 1 is also not obvious in light of the prior art.

Therefore, an inventive step can be recognized for the subject-matter of independent claim 1 (Article 33(3) PCT).

U.S. Serial No. 10/534,072
Reply to Action of: August 18, 2008
Family Number: P2002J114

Page 15

For the foregoing reasons, the rejection under 35 USC 103(a) over the Mauldin patent should be withdrawn.

Rejection under 35 USC 103 over Mauldin in view of Huang

For the reasons given on page 8 of the Official Action, claims 4-6 are rejected under 35 USC 103(a) over the disclosure of the Mauldin U.S. Patent No. 5,863,856, in view of the disclosure of the Huang et al U.S. Patent No. 5,332,705.

This rejection is respectfully traversed.

For reasons given hereinabove, the disclosure of the Huang patent fails to make up for the deficiencies of the Mauldin patent in suggesting embodiments of the present claims. Furthermore, it would not be obvious to modify the disclosure of the Mauldin patent with the disclosure of the Huang patent in the manner indicated in the Official Action. Moreover, the combined disclosures of the Mauldin patent and the Huang patent do not result in an embodiment of the present claims. The disclosure of the Mauldin patent involves Fischer-Tropsch catalysts, whereas the disclosure of the Huang patent involves acetylene hydrogenation catalysts.

Accordingly, the rejection under 35 USC 103(a) over the Mauldin patent, in view of the Huang patent, should be withdrawn.

U.S. Serial No. 10/534,072
Reply to Action of: August 18, 2008
Family Number: P2002J114

Page 16

Rejection under 35 USC 103 over Mauldin in view of Shih

For the reasons given on pages 8-9 of the Official Action, claims 7, 27-30, 33 and 38 are rejected under 35 USC 103(a) over the disclosure of the Mauldin U.S. Patent No. 5,863,856, in view of the disclosure of the Shih U.S. Patent No. 5,344,553.

This rejection is respectfully traversed.

For reasons given hereinabove, the disclosure of the Shih patent fails to make up for the deficiencies of the Mauldin patent in suggesting embodiments of the present claims. Furthermore, it would not be obvious to modify the disclosure of the Mauldin patent with the disclosure of the Shih patent in the manner indicated in the Official Action. Moreover, the combined disclosures of the Mauldin patent and the Shih patent do not result in an embodiment of the present claims. The disclosure of the Mauldin patent involves the use of organic compounds which have multiple carboxylic acid functionalities; whereas the disclosure of the Shih patent involves the use of ammonium or phosphonium directing agents; whereas the present claims involve the use of organic compounds which have a nitrogen atom and either a carboxylic acid functionality or an hydroxy functionality.

Accordingly, the rejection under 35 USC 103(a) over the Mauldin patent, in view of the Shih patent, should be withdrawn.

U.S. Serial No. 10/534,072
Reply to Action of: August 18, 2008
Family Number: P2002J114

Page 17

Rejection under 35 USC 103 over Mauldin in view of Engel

For the reasons given on page 10 of the Official Action, claims 8-15 are rejected under 35 USC 103(a) over the disclosure of the Mauldin U.S. Patent No. 5,863,856, in view of the disclosure of the Engel et al U.S. Patent No. 2,650,906.

This rejection is respectfully traversed.

For reasons given hereinabove, the disclosure of the Engel patent fails to make up for the deficiencies of the Mauldin patent in suggesting embodiments of the present claims. Furthermore, it would not be obvious to modify the disclosure of the Mauldin patent with the disclosure of the Engel patent in the manner indicated in the Official Action. Moreover, the combined disclosures of the Mauldin patent and the Engel patent do not result in an embodiment of the present claims. The purpose of using an alkanolamine in the disclosure of the Engel patent is to avoid an undesirable reactions involving supports impregnated with (1) cobalt and/or nickel and (2) tungsten and/or molybdenum. See column 2, lines 1-36 of the Engel patent. This problem is not faced in the process described in the Mauldin patent.

Accordingly, the rejection under 35 USC 103(a) over the Mauldin patent, in view of the Engel patent, should be withdrawn.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Account No. 05-1330.

In view of the foregoing, it is respectfully submitted that the present claims are in condition for allowance. Prompt notification of allowance is respectfully solicited.

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U.S. Serial No. 10/534,072
Reply to Action of: August 18, 2008
Family Number: P2002J114

Page 18

If the Examiner has any questions or wishes to discuss this application, the Examiner is invited to contact the undersigned representative at the number set forth below.

Respectfully submitted,



Attorney for Applicants
Liza Montalvo
Registration No. 45,731
Telephone No. (908) 730-3665
Facsimile No. (908) 730-3649

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